

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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USA Patent Application
Klaus Kronenberg, et al
ELECTRIC MOTOR, IN PARTICULAR A FAN MOTOR

Priority: German Patent Application
100 27 614.8 filed June 7, 2000

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

S I R :

PRELIMINARY AMENDMENT

Please amend this application simultaneously with filing the
accompanying application as follows:

IN THE ABSTRACT

Cancel the Abstract and replace it with the new Abstract attached
herewith on a separate page.

IN THE SPECIFICATION

Page 1, Line 10, before this line insert the following paragraph
heading:

FIELD AND BACKGROUND OF THE INVENTION

Page 1, Line 30, before this line insert the following paragraph heading:

SUMMARY OF THE INVENTION

Page 4, Line 10, before this line insert the following paragraph heading:

BRIEF DESCRIPTION OF THE DRAWINGS

Page 4, Line 25, before this line insert the following paragraph heading:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

IN THE CLAIMS

Before claim 1, change "Patent Claims" to --WE CLAIM:--

Please cancel claims 1-21 without prejudice or disclaimer of the subject matter therein and substitute the following claims 22-43 therefor:

22. (new) An electric motor having a stator and a rotor, with the rotor having at least one permanent magnet and one rotor shaft and with the stator having at least two coils which produce a rotating magnetic field when alternating currents flow through said two coils, by which the rotor is drivable, and the rotor shaft is mounted radially and axially, wherein the rotor (4) is mounted by at least one elastic

thrust ring (1a, 1b), with a first thrust ring (1a) being arranged axially on one side of the rotor (4).

23. (new) The electric motor as claimed in claim 22, wherein a second thrust ring (1b) is arranged on another side of the rotor (4), and, depending on position of said rotor, the rotor (4) either loads the first or second elastic thrust ring (1a, 1b) continuously, or loads the first and second thrust ring (1a, 1b) alternately.

24. (new) The electric motor as claimed in claim 22, wherein the thrust rings (1, 1a, 1b) comprise a rubber-like plastic matrix (2) to one side of which microfibers (3, 3a, 3b) are applied.

25. (new) The electric motor as claimed in claim 24, wherein the side with the microfibers (3, 3a, 3b) faces the rotor (4).

26. (new) The electric motor as claimed in claim 24, wherein the microfibers (3, 3a, 3b) are distributed stochastically.

27. (new) The electric motor as claimed in claim 22, wherein a lubricant is provided in the thrust rings (1, 1a, 1b).

28. (new) The electric motor as claimed in claim 27, wherein the lubricant in the thrust rings (1, 1a, 1b) has low viscosity.

29. (new) The electric motor as claimed in claim 22, wherein at least the first thrust ring (1a) is arranged in a recess (14) in the stator, wherein the recess (14) accommodates a bearing disk (1a).

30. (new) The electric motor as claimed in claim 22, wherein the rotor (4) has at least one indentation (8) to accommodate a second thrust ring (1b).

31. (new) The electric motor as claimed in claim 29, wherein recesses (14) and indentations (8) in the stator and in the rotor (4), respectively, are in a form of truncated cones.

32. (new) The electric motor as claimed in claim 22, wherein the stator (12, 13) has an axial stop

(20), and wherein by said axial stop an axial movement of the rotor shaft (7) is limitable by said axial stop when additional components are mounted on the rotor shaft (7).

33. (new) The electric motor as claimed in claim 22, wherein a capillary gap (19) for holding lubricant is provided between the rotor (4) and the stator (12, 13).

34. (new) The electric motor as claimed in claim 22, wherein the rotor shaft (7) is polished in a radial bearing region (10, 11).

35. (new) The electric motor as claimed in claim 22, wherein the rotor (4) has a permanent magnet (5) embedded in a magnet mounting (6).

36. (new) The electric motor as claimed in claim 22, wherein said electric motor has a rotationally symmetrical magnet which is rigidly connected to the rotor shaft (7).

37. (new) The electric motor as claimed in claim 22, wherein the stator is in a form of a winding body (12, 13).

38. (new) The electric motor as claimed in claim 37, wherein at least two crossing coils are mounted on the winding body.

39. (new) The electric motor as claimed in claim 22, wherein the alternating currents in individual of said coils have a phase separation which corresponds to an angle of the individual coils with respect to one another.

40. (new) The electric motor as claimed in claim 39, wherein the alternating currents are sinusoidal.

41. (new) The electric motor as claimed in claim 22, **wherein** a fan impeller (9) is mounted on the rotor shaft.

42. (new) The electric motor as claimed in claim 41, wherein the fan impeller (9) is pressed onto the rotor shaft (7).

43. (new) The electric motor as claimed in claim 30, wherein recesses (14) and indentations (8) in the stator and in the rotor (4), respectively, are in a form of truncated cones.

R E M A R K S

This Amendment accompanying this application is being made to cancel claims 1-21 without prejudice or disclaimer of the subject matter therein and to substitute new claims 22-43 therefor, to avoid multiple-dependent claim fees and to place this application in proper form and condition for examination as of the filing of this application. No multiple-dependent claim fees should apply.


Therefore no multiple-dependent claim fees should be charged in this application.

The specification has also been amended for formal improvement to comply with USA practice.

A new Abstract is presented on a separate page herewith.

The Examiner is respectfully requested to enter this Amendment prior to calculation of the filing fee, and to provide an action on the merits.

Respectfully submitted
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USA Patent Application
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ELECTRIC MOTOR, IN PARTICULAR A FAN MOTOR

Abstract

Electric motor, in particular a fan motor

An electric motor having a stator and a rotor, with the rotor having at least one permanent magnet and one rotor shaft and with the stator having at least two coils which produce a rotating magnetic field when alternating currents flow through them, by which the rotor can be driven, and wherein the rotor shaft is mounted radially and axially. The rotor (4) is mounted by at least one elastic thrust ring (1a, 1b), with one thrust ring (1a) being arranged axially on one side of the rotor (4).